

ABSTRACT

A passivated film on a surface of a high-alloy steel member makes it difficult to apply diffusion treatment, such as gas nitriding or gas carburizing, that forms a nitrided layer, carburized layer or carbonitrided layer on the surface of the steel member. An activating treatment method is provided for the surface of the metal member. This method is not accompanied by problems of conventional activation treatment with a halide, such as furnace deposits, furnace wall erosion and effluent gas detoxification treatment, and is useful as pretreatment for diffusion treatment. According to this method, the passivated surface of the high-alloy steel member can be activated by using a gas commonly employed in gas heat treatment, and forming HCN gas in a heating furnace while making use of catalytic action of the steel member or a surface of the furnace.